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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/578,822	05/09/2006	Euan Christopher Smith	1365.106US1	5154
21186	7590	01/07/2010		
SCHWEGMAN, LUNDBERG & WOESSNER, P.A. P.O. BOX 2938 MINNEAPOLIS, MN 55402				
EXAMINER				STONE, ROBERT M
ART UNIT		PAPER NUMBER		
2629				
NOTIFICATION DATE	DELIVERY MODE			
01/07/2010	ELECTRONIC			

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

uspto@slwip.com
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Office Action Summary	Application No. 10/578,822	Applicant(s) SMITH ET AL.
	Examiner Robert M. Stone	Art Unit 2629

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 19 October 2009.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-9 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) 1-8 is/are allowed.
 6) Claim(s) 9 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 19 October 2009 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
 3) Information Disclosure Statement(s) (PTO/GS-68)
 Paper No(s)/Mail Date _____

4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date _____
 5) Notice of Informal Patent Application
 6) Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 19 October 2009 has been entered.

Response to Amendment

2. The amendment filed on 19 October 2009 has been entered and considered by the examiner.

Specification

3. The disclosure is objected to because it contains an embedded hyperlink and/or other form of browser-executable code. Specifically, the last two lines of the newly amended specification include the hyperlinks of "www.dcfi.gov/DCCI/rdwg/nmf.pdf" and "www.cs.utexas.edu/users/liuwq/383CProject/CS_383C_Project.htm". Applicant is required to delete the embedded hyperlink and/or other form of browser-executable code. See MPEP § 608.01.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Smith* (US 2005/0140610) in view of *Nimmer* (US 6,980,182).

As to **claim 9**, *Smith* (Figs. 2a and 4-6c) discloses a method of controlled current driving of a passive matrix organic light emitting diode (OLED) display (controllable current generator provides controlled variable currents for driving the passive matrix OLED [abstract, 0021]), said display having a matrix of OLED pixels addressed by row and column electrodes (passive matrix 502 of OLEDs 312 driven by column lines 508 and row lines 512 [0049, 0050, 0053]; Figs. 3 and 5), the method comprising simultaneously driving a plurality of said column electrodes with a plurality of controlled column currents (current generator provides controlled variable currents to all column lines of the display simultaneously [abstract, 0021, 0008, 0025]) and a row electrode with a controlled row current (row drive circuitry provides signals for row lines according to the controlling current sources 548a-b via controlled switches 510a-b [0055]; Fig. 5), said driving of said row electrode being at the same time as said driving of said plurality of column electrodes (during a row selection, all column electrodes are driven with their respective currents in parallel to light all pixels of the row simultaneously [0008, 0025]), using a controllable current mirror to provide a sum of column currents to the row electrode in a controllable variable

ratio (controlled current mirrors are used in order to provide differing ratios of currents via scaling as desired providing variable currents across the display [0051,0054, 0021, 0028] wherein during the simultaneous driving of the column electrodes, the sum of currents would be transmitted to connected row electrode completing the circuit).

Smith does not expressly disclose simultaneously driving the plurality of row electrodes at the same time as the driving of the plurality of column electrodes or that a sum of column currents is divided between multiple row electrodes. However, it is noted that *Smith* does disclose the driving of a plurality of column electrodes at the same time as a row electrode ([0008, 0025]) and it is further disclosed that the row and column circuitry can be exchanged in order to drive a plurality of row electrodes simultaneously ([0008, 0025]).

Nimmer discloses a passive matrix organic light emitting display with a plurality of pixels [abstract] and simultaneously driving a plurality of row electrodes at the same time as the driving of a plurality of column electrodes (plurality or all column electrodes and a plurality or all row electrodes can be driven simultaneously [abstract; col. 2, lines 10-14; col. 5, lines 29-44]) and that a sum of column currents is divided between multiple row electrodes (with *Nimmer*'s teaching of multiple row activation simultaneously, the sum of currents presented on the column electrodes are dispersed across multiple row electrodes in accordance with Kirchhoff's Current Law. Thus when increasing the number of active row electrodes, the input current from the column electrodes are split

and/or rationed out such that each row electrode only receives part of the initially supplied current).

At the time of invention, it would have been obvious for a person of ordinary skill in the art to have driven a plurality of row electrode simultaneously as taught by *Nimmer* in the display driving of *Smith*. The suggestion/motivation would have been to provide the ability of lighting more of the display at one time [col. 5, lines 46-48].

Allowable Subject Matter

6. Claims 1-8 are allowed.

Response to Arguments

7. Applicant's arguments with respect to newly amended independent claim 9 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- a. *Smith* (US 2005/0219163) and *Routley* (US 2006/0001613) disclose OLED displays similar to the Instant Application with current mirrors providing variable currents to a plurality of column lines of a display with each column driver containing a D/A.

- b. *Nishigaki* (US 2001/0048410) discloses driving an organic light emitting display by variably controlling the currents supplied to the column electrodes.
- c. *Edwards* (US 6,498,438) discloses a current source for an organic light emitting display wherein the currents supplied to the column lines are variably controlled.
- d. *Koyama* (US 2004/0207578) discloses an organic light emitting display wherein the column electrodes and row electrodes are activated simultaneously in order to light plural elements wherein the column currents are distributed to multiple row electrodes.
- e. *Kimura* (US 2004/0085270) and *Sun* (US 2004/0174282) disclose providing variable currents to the column lines of an organic light emitting display.
- f. *Page* (US 2004/0061672) discloses driving an organic light emitting diode display with variably controlled currents for column and rows of a display.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert M. Stone whose telephone number is (571)270-5310. The examiner can normally be reached on Monday-Friday 9 A.M. - 4:30 P.M. E.S.T. (alternate Fridays off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chanh D. Nguyen can be reached on (571)272-7772. The fax phone

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Robert M Stone/
Examiner, Art Unit 2629

/Chanh Nguyen/
Supervisory Patent Examiner, Art
Unit 2629